

APPLICANT(S): KEREN, Gad et al.
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AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application. Please add the claims marked as new and cancel, without prejudice, the claims marked as cancelled.

Listing of Claims

1.-31. (Cancelled)

32. (New) An apparatus for decreasing blood pressure in a first atrium of a heart, the apparatus comprising:

a shunt, said shunt including at least a fixation element and a valve element, said valve element to selectively permit blood flow from said first atrium to a second atrium of said heart at a pressure differential threshold.

33. (New) The apparatus of claim 32, wherein said first atrium is a left atrium of said heart and said second atrium is a right atrium of said heart.

34. (New) The apparatus of claim 32, wherein said pressure differential threshold is pre-selected

35. (New) The apparatus of claim 32, comprising a tubular element including at least two ends and wherein two of said fixation elements are disposed at each of said ends.

36. (New) The apparatus of claim 32, comprising a tubular element including at least a flat pivoting plate.

37. (New) The apparatus of claim 32, wherein said valve is a check-valve to be activated by an external signal.

38. (New) The apparatus of claim 37, comprising an intra-corporeal electrical battery to generate said external signal.

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39. (New) The apparatus of claim 37, comprising an externally coupled energy source to generate said external signal.

40. (New) The apparatus of claim 32, comprising a pump, said pump being adapted to be in fluid communication with said shunt.

41. (New) A method of decreasing blood pressure in a first atrium of a heart, the method comprising:

allowing blood to flow from the first atrium to a second atrium via a shunt when the pressure differential between the first atrium and the second atrium reaches a threshold.

42. (New) The method of claim 41, wherein said first atrium is the left atrium and said second atrium is the right atrium.

43. (New) The method of claim 41, comprising allowing intermittent and controlled blood flow from said first atrium to said second atrium.

44. (New) The method of claim 41, comprising selectively permitting blood flow when a selected pressure differential exists between said first atrium and said second atrium of said heart.

45. (New) The method of claim 41, comprising actuating a check-valve by an external signal.

46. (New) The method of claim 45, comprising generating said signal using an intracorporeal electrical battery.

47. (New) The method of claim 41, comprising activating a pump in fluid communication with said shunt, said pump having an input connected to said first atrium and an output connected to a volume of blood of said second atrium.

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48. (New) The method of claim 41, wherein said shunt comprises at least one fixation element.

49. (New) A method of decreasing blood pressure in a first atrium of a heart, the method comprising:

implanting a shunt with valve element using a catheter, between said first atrium and a second atrium.

50. (New) The method of claim 49 wherein said implanting including deploying a tubular element having two ends and two fixation elements disposed at said two ends respectively.

51. (New) The method of claim 49, comprising allowing blood to flow from said first atrium to said second atrium via said shunt when the pressure differential between said first atrium and said second atrium reaches a threshold.

52. (New) The method of claim 49, comprising releasing at least one of said fixation elements.

53. (New) The method of claim 49, wherein said fixation elements comprise shape-retaining metallic material.

54. (New) A blood flow diverting apparatus to be implanted inside the heart, on the atrial septum.

55. (New) The apparatus of claim 54, wherein the apparatus is to control left atrium pressure.

56. (New) The apparatus of claim 54, wherein the apparatus is to provide heart blood flow from the left atrium to the right atrium.

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57. (New) The apparatus of claim 54, wherein the apparatus is to provide blood flow from the right atrium to the left atrium.

58. (New) The apparatus of claim 54 wherein the apparatus is implanted in a percuntaneous procedure.